

PHYSICS AND ASTRONOMY

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Physics and Astronomy

Physics is the discipline that by experiment and logical analysis examines the laws of nature that form the basis for all relationships and interactions between matter and energy. Knowledge of physics is also essential in other natural sciences, such as chemistry and geology, and to professions such as engineering, medicine and dentistry. Astronomy, the other focus of this department, examines the universe, the earth and the planets, as well as phenomena such as quasars, pulsars, comets, and asteroids; a planetarium and an astronomical observatory are part of this program. In both Physics and Astronomy mathematical skills are developed simultaneously.

The Department of Physics and Astronomy and the Department of Electrical and Computer Engineering have defined focus areas of study within their own programs. Students taking the courses recommended for these focus areas will find it easier to transfer between programs in Physics and Astronomy and Electrical and Computer Engineering programs. Students interested in obtaining more information about transferring to a Physics program from Electrical Engineering should consult with the Head of the Physics department.

Variations in any of the Physics and Astronomy programs may be possible, but must be approved by the head of the department and the Science general office.

Joint Honours

The Department of Physics and Astronomy offers joint Honours programs in conjunction with the Departments of Mathematics, Computer Science, and Chemistry.

Programs

Degree/Diploma	Years to Completion	Total Credit Hours	Has Co-op Option
Physics and Astronomy, B.Sc. Honours (https://catalog.umanitoba.ca/undergraduate-studies/science/physics-astronomy/physics-bsc-honours/)	4	120	Yes
Physics and Astronomy, B.Sc. Major (https://catalog.umanitoba.ca/undergraduate-studies/science/physics-astronomy/physics-astronomy-bsc-major/)	4	120	Yes
Physics and Astronomy Minor (https://catalog.umanitoba.ca/undergraduate-studies/science/physics-astronomy/physics-astronomy-minor/)		18	

Chemistry - Physics Joint, B.Sc. Honours (<https://catalog.umanitoba.ca/undergraduate-studies/science/chemistry/chemistry-physics-bsc-honours/>)

Computer Science - Physics & Astronomy Joint, B.Sc. Honours (<https://catalog.umanitoba.ca/undergraduate-studies/science/computer-science/computer-science-physics-astronomy-bsc-honours/>)

Mathematics - Physics & Astronomy Joint, B.Sc. Honours (<https://catalog.umanitoba.ca/undergraduate-studies/science/mathematics/mathematics-physics-astronomy-bsc-honours/>)